

11.—Some New Western Australian Sawflies of the Euryinae and Phylacteophaginae (Hymenoptera, Pergidae)

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Three out of the four species of Western Australian sawflies studied biologically by Mr. Athol M. Douglas proved to belong to previously unknown species or subspecies of *Eurys*, *Clarissa* and *Phylacteophaga*, three endemic Australian genera not previously found in Western Australia.

A new key is given to the genera of Euryinae. The new species *Eurys aglaia* and *Clarissa hebe* are described and compared with their nearest known relatives in the previous keys to species. To the three forms of two described species of *Phylacteophaga* is added a fourth form and all four are treated as geographical subspecies of a single species.

Introduction.

The sawfly fauna of Western Australia, so far as it is yet known, is almost entirely endemic. Mr. Athol M. Douglas of Perth, who has been studying the biology of four local species, has sent samples to me for naming. Three of these are undescribed species, or subspecies, and the fourth one is the endemic *Neoeurys turneri* (see Benson 1938b). The genera *Eurys*, *Clarissa* and *Phylacteophaga* to which the three new forms belong, have not previously been recorded from Western Australia. This suggests that many more interesting sawflies await discovery in Western Australia.

The holotypes and most of the paratypes are being deposited in the Western Australian Museum at Perth, but duplicate paratypes are being retained for the British Museum. I am indebted to Mr. Douglas for allowing me to examine his material.

Key to Genera of Euryinae.

This subfamily as defined by Benson (1935, 1938a) is restricted to the Australian and New Guinea regions. The following key to genera is intended to supersede the one published by Benson (1934).

1. Anal cell of forewing petiolate and closed apically (Fig. 9). Cell Rs of hindwing with base closed (cross-vein 1r-m complete) (Figs. 5-8). Hind basitarsus shorter than three following tarsomeres together. Maxillary palp shorter than greatest measure of eye (except in *Diphamorphos*). Confined to Australian region 2
- Anal cell of forewing open apically (Fig. 10). Cell Rs of hindwing usually open at base (cross-vein 1r-m does not extend from M beyond Remigial Fold) (Fig. 4). Hind basitarsus en-

larged and as long as 3 or 4 following tarsomeres together. Maxillary palp much longer than greatest measure of eye. Confined to New Guinea region. [Antennae filiform and set well below level of middle of eyes. Labium not elongate. Hindwing with large apical cell and cell Rs close to M+Cu. Inner hind tibial spur as long or longer than apical width of tibia. 5 spp. Key in Benson (1958). Type: *Ancyloneura varipes* Cameron.]

Ancyloneura
Cameron

2. (1) Flagellar segments of antennae simple (neither pectinnate nor serrate) 3

— Flagellar segments pectinnate in ♂ and serrate in ♀ (middle segments in ♂ with a ventral branch about X10 times width of segment; and in ♀ with a ventral tooth about as long as width of segment). [Antenna set well below level of middle of eyes. Labium not elongate. Hindwing with apical cell obsolete and cell Rs closer to M+Cu. than the length of its base (1 r-m) (Fig. 7). Inner hind tibial spur not longer than apical width of tibia. 1 sp. Type: *Polyclonus atratus* Kirby.]

Polyclonus
Kirby

3. (2) Tongue not or only slightly elongate (ligula and mentum together shorter than front tibia). Usually black or brown species, without metallic lustre 4

— Tongue strongly elongate (ligula and mentum together longer than front tibia) (Figs. 1-3). Metallic green, blue, violaceous or cupreous.

[Antennae subclavate and sockets touching level of middle of eyes. Hindwing with large apical cell. Cell Rs of hindwing about as far from cell M+Cu. as the length of its own base (1 r-m) (Fig. 5). Inner hind tibial spur longer than apical breadth of hind tibia. 9 spp. Key in Benson (1934) with 2 additional species in Benson (1938b) and one in this paper. Type: *Eurys aeratus* Newman.]

Eurys New-
man

4. (3) Hind wing with apical cell large (Fig. 6) 5

— Hindwing with apical cell small (Figs 7 and 8). [Inner hind tibial spur much longer than apical width of tibia] 6

5. (4) Antennae filiform with flagellum longer than breadth of head. Inner hind spur longer than apical

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width of tibia and hind tarsus usually as long as tibia. Hindwing with cells Rs about as close to cell M+Cu. as half the length of its own base (i.e., half length of cross-vein 1 r-m).

[Antennae set well below level of middle of eyes. 20 spp. Key to 13♀ in Benson (1934), 2 additional species in Benson (1935) and 5 in Benson (1938b). Type: *Neoeurys metallica* Rohwer.]

Neoeurys
Rohwer

Antennae subclavate with flagellum only about as long as width of head. Inner apical tibial spur not longer than apical width of tibia and hind tarsus much shorter than tibia. Hindwing with cell Rs further from cell M+Cu. than half the length of its own base.

[Antennae set well below level of middle of eyes. 2 spp. N.S. Wales. Key in Benson (1934). Type: *Clarissa froggatti* Rohwer.]

Warra
Benson

6. (4) Hind wing with cell Rs further from cell M+Cu. than the length of its own base (i.e., the cross-vein 1 r-m) (Fig. 8). Maxillary palp shorter than the greatest eye-length. Antennae

filiform and set with upper edge of socket near level of middle of eyes.

[12 spp. Key to 5♀ in Benson (1934) with 3 more in Benson (1955, 1938b) and in the present paper; in Benson (1955) there is also a key to 6♀, 4 of which are treated as spp. nov. of which the ♀ is unknown.

Type: *Clarissa divergens* Kirby.]

Clarissa
Kirby

Hindwing with cell Rs much closer to Cell M+Cu. than the length of its own base (i.e., little more than half the cross-vein 1 r-m) (Fig. 7). Maxillary palp longer than the greatest eye-length. Antenna filiform, set well below the level of the middle of the eyes.

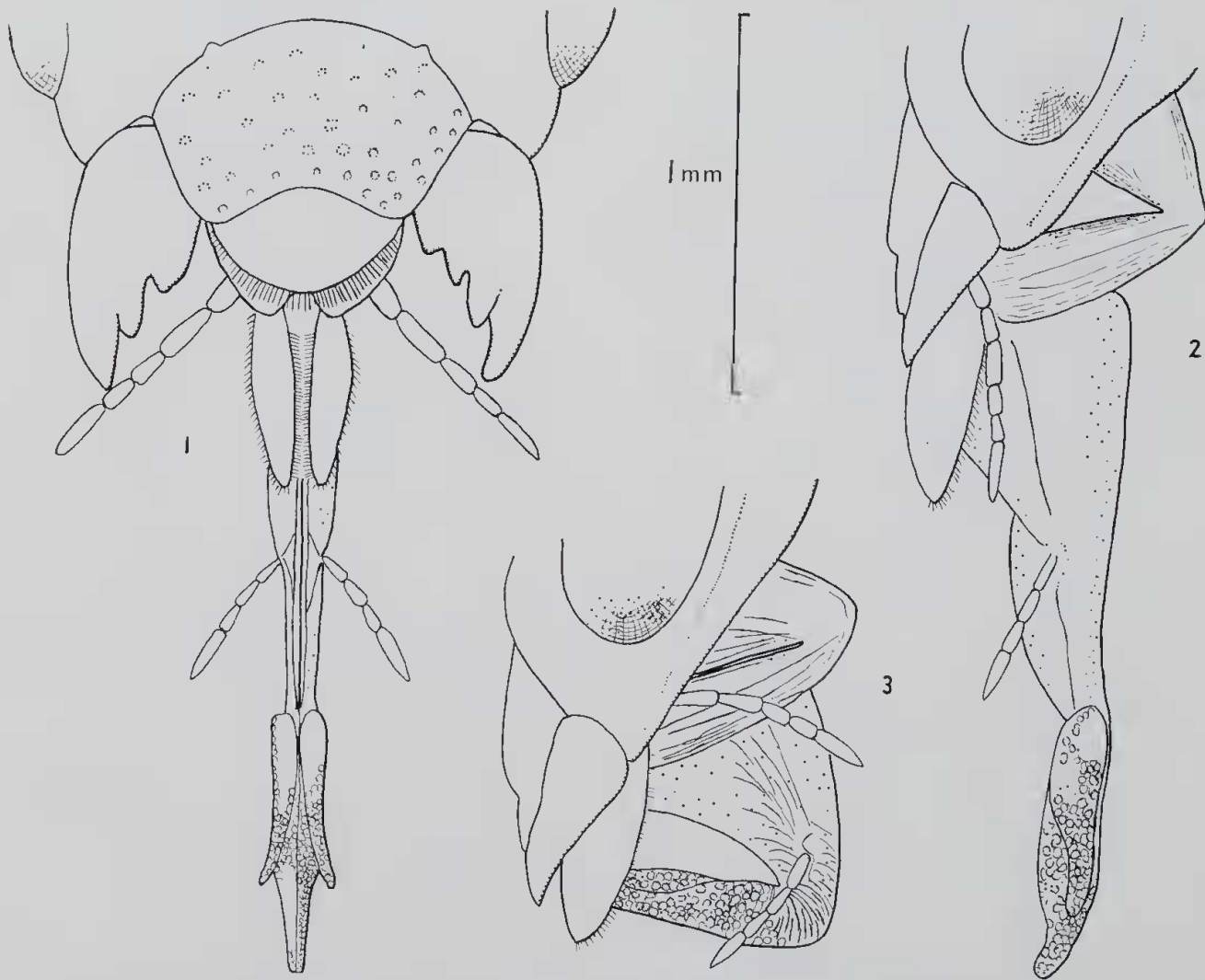
[4 spp. Key in Benson, (1934) and one additional species in Benson (1935).

Type: *Diphamorphus nigrescens* Rohwer.]

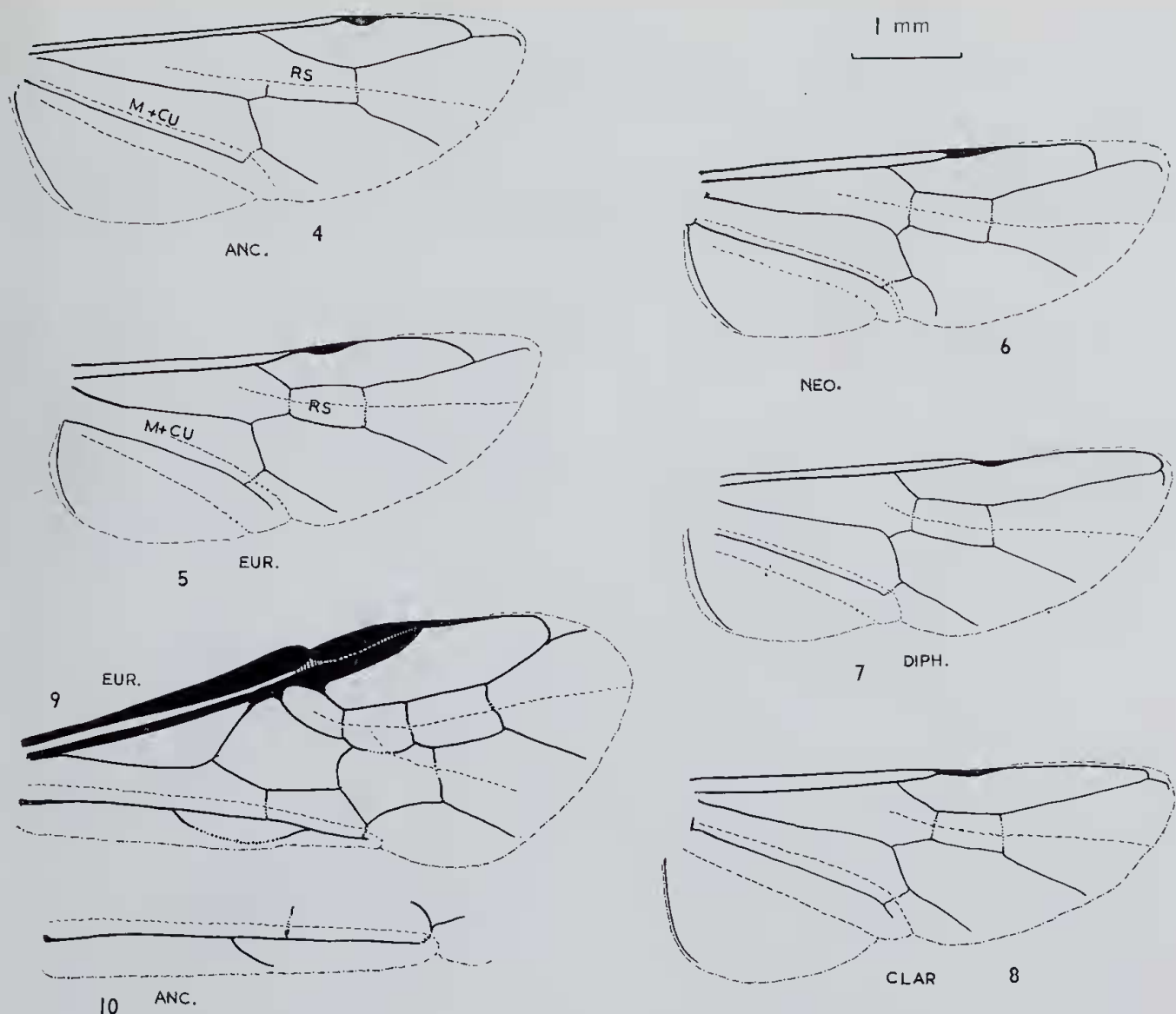
Diphamorphos
Rohwer.

Eurys aglaia, sp. nov.

♀ Colour: cupreous with violaceous reflections on head and mesotum; infuscate on the front of the clypeus, base of mandible, antenna and concavities of thorax; apices of mandibles and legs brown, infuscate on trochanters, femora



Figs. 1-3.—Tongue of *Eurys laetus* (Westwood): 1, front view extended; 2, lateral view extended; 3, lateral view folded.



Figs. 4-8.—Hindwings of Euryinae: 4, *Ancyloneura*; 5, *Eurys*; 6, *Neoeurys*; 7, *Diphamorphos*; and 8, *Clarissa*.
Fig. 9.—Forewing of *Eurys*. Fig. 10.—Anal region of forewing of *Ancyloneura*.

(except apices) and apices of tarsomeres; ivory white is the labrum and a line along the lateral margin of the 2nd to 7th tergites. Wings hyaline; stigma and costa pale brown, rest of venation brown to piceous. Length 5 mm.

Head: with mouthparts as in Figs. 1-3. Antenna 10-segmented, subclavate, longer than breadth of head (as 1.2:1.0), with only 9th segment broader than long. Malar space X 0.3 distance between antennal sockets. Hind ocelli about as far apart as from hind margin of head.

Thorax: normal; inner hind tibial spur more than half as long as basitarsus.

Abdomen: normal; sheath and saw as in Benson (1934, Figs. 5b and 5a).

Surface sculpture: head and thorax dull with microsculpture between dense punctures; abdomen with dense transverse striae.

Pubescence: head, thorax and underside of abdomen clothed with dense fine pubescence.

WESTERN AUSTRALIA. Yanchep, 4♀ (including holotype) 5.ix.1962 (A. Douglas).

This species in Benson's key (1934) would run to *E. pulcher* Benson (New South Wales) which differs however, in its sparser punctures on head above and mesonotum with shining interspaces, in its longer 11-segmented antenna with no segment broader than long, and longer malar space, X 0.5 distance between antennal sockets.

***Clarissa hebe*, sp. nov.**

♀ Colour: bronze with violaceous and blue metallic reflections; there is a lateral abdominal stripe of ivory white made up of L-shaped flecks covering the lateral margin and posterior margin at the corner of each of the 2nd to 8th tergites; yellowish-white to brown are the mandibles (except their infusate apices), the labrum, the legs (except the infusate bases of coxae and ± apical tarsomere) and sometimes a ± obscure medial fleck on the apical tergites. Wings hyaline to slightly infusate: basal half of costa and anal vein yellow; stigma and rest of venation black to piceous. Length 6 mm.

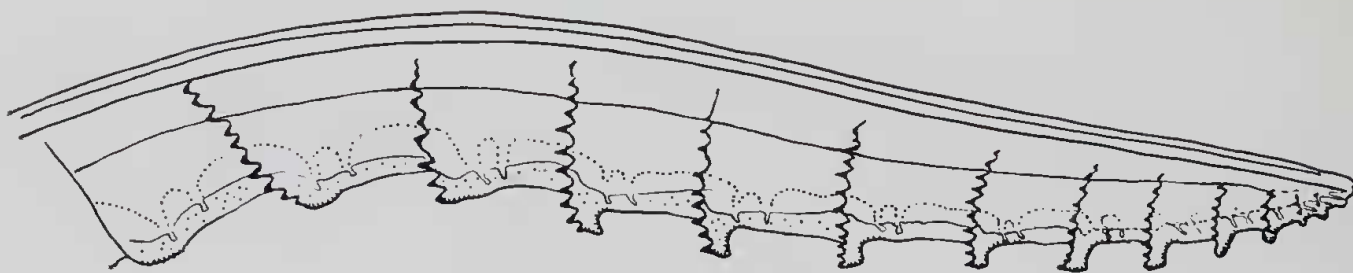


Fig. 11.—Saw of *Clarissa hebe* sp. nov.

Head: with clypeus subtruncate in front, slightly emarginate and about one quarter as long as broad. Malar space short (about as long as two compound-eye facets). Distance between antennal sockets about X2 distance from socket to anterior tentorial pit. Antenna about as long as breadth of head, 8-segmented and sub-clavate, with 7th segment broader than long. Hind ocelli further apart than from hind margin of head (1.0: 0.8).

Thorax: normal; inner hind tibial spur more than half basitarsus; hind basitarsus a little longer than two following tarsomeres together.

Abdomen: with sawsheath, scarcely as long as hind femur, and narrowly truncate at apex, where it is only about half as wide as apex of hind femur, with straight lateral hairs set at an acute angle between those on one side with those on other; saw (Fig. 11) with well-developed marginal and lateral teeth.

Surface sculpture: minute punctures very dense on head, becoming sparser with shining interspaces on vertex; underthorax shining with very minute evenly spaced punctures; on mesonotum the punctures are widely spaced and shallow, obsolescent in the middle of the lobes, and the whole surface shining. Abdomen above with dense transverse striae.

Pubescence: head, thorax and abdomen below clothed in short, fine, pale pubescence.

♂ and ♀ except for sexual character; apical abdominal sternite yellow; length 5.5 mm.

WESTERN AUSTRALIA, Tambrey, 9 ♀ (including holotype) and 4 ♂, 29 vii 1958 (A. Douglas).

In the key to *Clarissa* in Benson (1934) this species does not pass the first couplet, because, though the pedical is longer than broad, the clypeus is only about one quarter as long as broad, and the hind basitarsus a little longer than the two following tarsomeres. In the position of the antennae (ratio of distance between antennal sockets and distance of antennal socket from anterior tentorial pit) it agrees with *C. ruficollis*, etc., (2 : 1), and disagrees with *C. divergens* and *C. atrata* (1.3:1). The saw is most like that of *C. flammea* Benson (1935, p. 214, Fig. 3), but with much more clearly marked lateral and ventral teeth.

Key to subspecies of *Phylacteophaga eucalypti* Froggatt.

Phylacteophaga Froggatt is the only described genus in the Phylacteophaginae and was supposed to contain only one species till Riek (1955) drew attention to the existence in eastern Australia of three allopatric colour forms, which he treated as two species, one of them in two subspecies. These forms are distinguished at

present only on the amount of infuscation on the basic reddish-brown colour in three different regions—the amount increasing progressively southwards. The Western Australian form is somewhat intermediate between the Queensland-New South Wales and the Victorian form. The true status of these four forms is not known; and the degree of infuscation may depend on temperature. The possible existence of a continuous cline from Queensland to Victoria needs to be investigated. In the key below the four forms are treated as subspecies of one species.

- | | | |
|----|---|-----------------------------------|
| 1. | Scape and pedical of antenna mostly infuscate. Scutellum at least partly infuscate behind | 2 |
| — | Scape and pedical pale. Scutellum entirely pale. [Legs pale except apex of tarsus in ♀ and in ♂ tarsus and apex of tibia: Queensland and New South Wales] | <i>froggatti</i> Riek, stat. nov. |
| 2. | (1) Hind femur ± infuscate | 3 |
| — | Hind femur entirely pale. [Western Australia: Nollamara, 1♀ (holotype) emerged 20.ix.1962 ex mines in leaves of <i>Eucalyptus marginata</i> Sm. collected ix.1962 (A. M. Douglas), and 5 ♂, 8 ♀ em. 18-22 ix.1962 likewise; Tuart Hill, 6 ♀. em. 5-17.ix.1962.] | <i>occidens</i> subsp. nov. |
| 3. | (2) At least middle tibia pale below; middle tarsus pale; foreleg entirely pale in ♀ (♂ not described). Victoria and A.C.T. | <i>eucalypti</i> Froggatt |
| — | Middle and hind legs all dark; foreleg with tibia and tarsus slightly darkened. Tasmania | <i>tasmanica</i> Riek |

References.

- Benson, R. B. (1934).—A classification of the sawflies of the family Pterygophoridae with a revision of the Australian members of the subfamily Euryinae (Hymenoptera Symphyta). *Trans. R. Ent. Soc. Lond.* 82: 461-476.
- (1935).—New Australian sawflies (Hymenoptera Symphyta). *Mem. Qd Mus.*, 10 (5): 211-229.
- (1938a).—On the classification of sawflies (Hymenoptera, Symphyta). *Trans. R. Ent. Soc. Lond.* 87: 353-384.
- (1938b).—Some new Australian sawflies of the subfamily Euryinae (Pergidae) (Hymenoptera, Symphyta). *Ann. Mag. Nat. Hist.* (11) 2: 358-365.
- (1958).—On some sawflies (Hymenoptera Symphyta) from New Guinea. *Proc. R. Ent. Soc. Lond.* (B) 27: 15-18.
- Riek, E. F. (1955).—Australian leaf-mining sawflies of the genus *Phylacteophaga* (Hymenoptera Tenthredinidae). *Aust. J. Zool.* 3 (1): 95-98.